REPORT OF A CASE OF SUDDEN LOSS OF VISION FOLLOWING ANÆSTHESIA OF THE FIFTH NERVE, WITH REMARKS ON THE MODIFYING EFFECT OF ANÆSTHESIA ON THE GALVANO-REACTIONS OF THE SPECIAL SENSES.

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R. F. A., æt. forty-eight, farmer; muscular, well-developed, and healthy. Married three years ago. Never drank to excess, nor had syphilis. No history of venereal abuse nor loss of venereal power. Is subject to headache. Has always used tobacco freely—at times excessively.

Three years ago, while hiving honey-bees, he was stung on the left cheek, and was astonished to find that it gave him no pain. From this time he noticed the left side of face was quite numb. This numbness increased steadily for about two years, and was accompanied by a heaviness and pain felt mostly on the left side, though at times extending over whole head. At the end of two years he noticed that the sight of left eye was impaired. This rapidly grew worse, and in ten days vision in this eye was totally lost, not even light-perception remaining. At this time he came under the care of Dr. William Thomson, from whose notes I condense the following account of his visual condition: Vision: R $\frac{6}{6}$, L blind. Left eye diverges. Both pupils small and immovable. Inspection otherwise normal. Tension normal. No glaucoma. The third pair is not involved. Has adduction when right eye is closed. The divergent cast is not due to paralysis of the internal rectus muscle. Ophthalmoscopic examination of the left eye showed white atrophy, the disc being snow-white.

He was sent to Dr. S. Weir Mitchell for examination, and was subsequently turned over to him for treatment, being placed upon increasing doses of iodide of potassium, and later upon small doses of corrosive sublimate.

One year afterward, on the 8th of February, 1884, the patient found the right eye failing. In one week it was entirely blind.

Examination showed no light-perception in either eye; both pupils very small, and both upper eyelids kept up by forced effort. No cause could be assigned for the attack. The ophthalmoscope showed no decided change except, perhaps, overfulness of the retinal vessels. The patient was now turned over to me by Dr. Mitchell for treatment.

His condition was as follows:

Over left eye there is a partially anæsthetic spot, about four centimeters long by three wide, oval in outline, and extending laterally. A needle may be thrust entirely through the skin without pain, though distinctly felt by the patient. The anæsthesia gradually lessens as the periphery of the area is approached.

Electrical excitation of this area, by placing both poles within its limits, developed the following facts:

Faradic current: Sensation lessened.

Galvanic current: Local effect on *blood-vessels of the skin* normal, and fully as great as that produced on sound side. The local *galvano-sensations*, however, presented a decided deviation from the normal. The sensation of burning was normal. The sensation of tingling was about two thirds lessened.

Gustation.—The more distant effects of the current are also about two thirds lessened, three times the usual current strength being required to produce a gustatory sensation when the poles are placed in the impaired area.

Vertigo.—When galvanic interruptions of sufficient strength are transmitted through portions of the head or neck, certain vertiginous sensations are usually produced. In this case vertigo was readily produced when the poles were placed anywhere but in the anæsthetic area. In this area thirty-five cells were required, while but twelve sufficed for the opposite side of the forehead.

Vision.—No sensations of light can be produced in either eye by the strongest current within the endurance of the patient. Applications were made to various portions of the fifth nerves of both sides, but equally without effect.

At the present time (June 1, 1884) the patient has been for two months under a treatment consisting of galvanic interruptions to the eyes and numb spot, and increasing doses of sulphate of strychnia, and as an apparent result there has been a decided increase of sensation in the left brow, and occasional flashes of light in the eyes. Simultaneously with the increasing sensation there has been a decrease in the number of cells required to produce both dizziness and the electric taste, and, on one occasion, a slight electric flash was obtained.

Fearing that the remarkable lessening of normal vertigo and taste originally found in this case might be due to an increased resistance at the anæsthetic spot, the amount of current actually passing through the circuit was carefully estimated by the deflection of a galvanometer needle. This deflection was exactly the same for each side, being at the time of experiment 2° for fourteen cells and 4° for twenty-two cells. The amount of electricity passing, therefore, could not have been different, and the difference in the results on the two sides can only be explained by placing these phenomena in the already large list of reflex actions—the integrity of one side of the arc in this case being impaired, with a corresponding impairment of the phenomena.

This solution of the "electric taste" and the "electric flash" was suggested some years ago by Althaus, in his work on Electro-therapeutics. Besides a corroboration of the facts observed by him, the importance of the case here related consists in the clear relation established between the restoration of sensation and the return of the phenomena.